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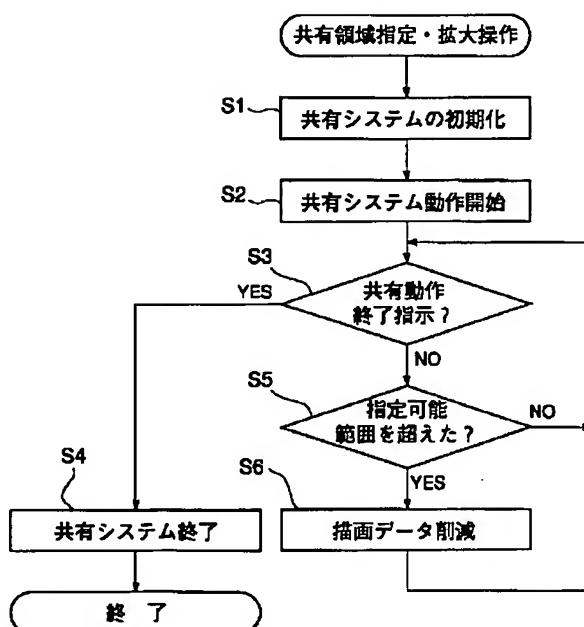
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(54) 【発明の名称】 情報処理システム、並びに情報処理装置と情報処理方法

(57) 【要約】

【課題】 クライアントとサーバとで画面解像度が異なる場合であっても、常に同一画面の共有を可能とした。

【解決手段】 サーバから共有領域が指定されると、初期化が行われ、サーバとクライアントとの間で画面解像度やデータ転送能力等のシステム情報が相互に交換される (S1)。次いで、共有システムの動作を開始し (S2)、共有動作の終了が指示されていないときは、共有領域の指定領域が指定可能範囲を超えたか否かを判断し (S3→S5)、指定可能範囲を超えたときは共有領域内の描画データが縦方向及び横方向に、例えば1/2にサブサンプリングして描画データを削減し、間引かれた描画データがデータ転送手段に出力され、該描画データがクライアントに転送される。



【特許請求の範囲】

【請求項1】 所定通信網を介して接続された複数の情報処理装置を有し、これら複数の情報処理装置間における共有表示領域情報を取得する共有領域取得手段を備えた情報処理システムにおいて、前記共有領域取得手段による共有表示領域情報の取得動作開始前に前記複数の情報処理装置間で所定のシステム情報を交換する情報交換手段を備えていることを特徴とする情報処理システム。

【請求項2】 前記システム情報は、前記情報処理装置で表示可能な最大表示領域情報を含むと共に、前記共有表示領域情報が画面表示領域を含み、前記共有領域取得手段により前記最大表示領域情報を越える前記画面表示領域が一の情報処理装置から指定されたときは該画面表示領域の描画情報をサブサンプリングして他の情報処理装置に表示するサブサンプリング手段を有することを特徴とする請求項1記載の情報処理システム。

【請求項3】 前記システム情報は、前記情報処理装置上で動作するアプリケーションのウィンドウ可能領域を含むと共に、前記共有表示領域情報が前記アプリケーションのウィンドウ領域を含み、前記共有領域取得手段により前記ウィンドウ可能領域を越えるウィンドウ領域が一の情報処理装置から指定されたときは該ウィンドウ領域内の描画情報をサブサンプリングして他の情報処理装置に表示するサブサンプリング手段を有することを特徴とする請求項1又は請求項2記載の情報処理システム。

【請求項4】 前記システム情報は、前記情報処理装置で表示可能な最大表示領域情報を含むと共に、前記共有表示領域情報が画面表示領域を含み、前記共有領域取得手段により前記最大表示領域情報を越える前記画面表示領域が一の情報処理装置から指定されたときは該最大表示領域情報を越える画面表示領域の拡大指定を禁止する共有領域指定禁止手段を有することを特徴とする請求項1記載の情報処理システム。

【請求項5】 前記システム情報は、前記情報処理装置で表示可能な最大表示領域情報及び前記情報処理装置上で動作するアプリケーションのウィンドウ可能領域を含むと共に、前記共有表示領域情報が前記アプリケーションのウィンドウ領域を含み、前記共有領域取得手段により前記ウィンドウ可能領域を越える前記ウィンドウ領域が一の情報処理装置により取得されたときは該ウィンドウ領域を前記最大表示領域情報に制限する領域制限手段を有することを特徴とする請求項1又は請求項2記載の情報処理システム。

【請求項6】 所定通信網を介して少なくとも1つ以上の端末に接続されると共に前記端末との間で共有表示領域情報を取得する共有領域取得手段を備えた情報処理装置において、

前記共有領域取得手段による共有領域取得動作の開始前に前記端末との間で所定のシステム情報を交換する情報交換手段を備えていることを特徴とする情報処理装置。

【請求項7】 前記システム情報は、前記端末との間で表示可能な最大表示領域情報を含むと共に、前記共有表示領域情報が画面表示領域を含み、前記共有領域取得手段により前記最大表示領域情報を越える前記画面表示領域を取得したときは該画面表示領域内の描画情報をサブサンプリングして前記端末に該描画情報を転送する転送手段を有することを特徴とする請求項6記載の情報処理装置。

【請求項8】 前記システム情報は、前記端末との間で動作するアプリケーションのウィンドウ可能領域を含むと共に、前記共有表示領域情報が前記アプリケーションのウィンドウ領域を含み、前記共有領域取得手段により前記ウィンドウ可能領域を越えるウィンドウ領域が取得されたときは該ウィンドウ領域内の描画情報をサブサンプリングして前記端末に該描画情報を転送する転送手段を有することを特徴とする請求項6又は請求項7記載の情報処理装置。

【請求項9】 前記システム情報は、前記端末との間で表示可能な最大表示領域情報を含むと共に、前記共有表示領域情報が画面表示領域を含み、前記共有領域取得手段により前記最大表示領域情報を越える前記画面表示領域を取得したときは該最大表示領域情報を越える画面表示領域の拡大指定を禁止する共有領域指定禁止手段を有することを特徴とする請求項6記載の情報処理装置。

【請求項10】 前記システム情報は、前記端末との間で表示可能な最大表示領域情報及び前記端末との間で動作するアプリケーションのウィンドウ可能領域を含むと共に、前記共有表示領域情報が前記アプリケーションのウィンドウ領域を含み、前記共有領域取得手段により前記ウィンドウ可能領域を越える前記ウィンドウ領域が取得されたときは該ウィンドウ領域を最大表示領域情報に制限する領域制限手段を有することを特徴とする請求項6又は請求項7記載の情報処理装置。

【請求項11】 所定通信網を介して接続された複数の情報処理装置間で共有情報を取得し、該共有情報に基づいてこれら情報処理装置の表示画面上の所定表示領域を互いに共有して所定の情報処理を行う情報処理方法において、前記共有情報を取得する前に前記複数の情報処理装置間で所定のシステム情報を交換することを特徴とする情報処理方法。

【請求項12】 前記システム情報は、前記情報処理装置で表示可能な最大表示領域情報を含むと共に、前記共有表示領域情報が画面表示領域を含み、前記最大表示領域情報を越える画面表示領域を取得した

ときは該画面表示領域内の描画情報をサブサンプリングして前記情報処理装置に該描画情報を転送することを特徴とする請求項1記載の情報処理方法。

【請求項13】 前記システム情報は、前記情報処理装置上で動作するアプリケーションのウインドウ可能領域を含むと共に、前記共有表示領域情報が前記ウインドウ領域を含み、
前記ウインドウ可能領域を越えるウインドウ領域が一の情報処理装置から指定されたときは該ウインドウ領域内の描画情報をサブサンプリングして他の情報処理装置に表示することを特徴とする請求項11又は請求項12記載の情報処理方法。

【請求項14】 前記システム情報は、前記情報処理装置で表示可能な最大表示領域情報を含み、
前記最大表示領域情報を越える共有領域を取得したときは前記最大表示領域情報を越える共有領域の指定を禁止することを特徴とする請求項11記載の情報処理装置。

【請求項15】 前記システム情報は、前記情報処理装置で表示可能な最大表示領域情報及び前記情報処理装置上で動作するアプリケーションのウインドウ可能領域を含むと共に、前記共有表示領域情報が前記アプリケーションのウインドウ領域を含み、
前記ウインドウ領域が前記ウインドウ可能領域を越えるときは該ウインドウ領域を最大表示領域情報に制限することを特徴とする請求項11又は12記載の情報処理方法。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は情報処理システム、並びに情報処理装置と情報処理方法に関し、より詳しくは利用者が直接操作する情報処理装置としてのクライアント側コンピュータと、該クライアント側コンピュータからの要求により処理を行う情報処理装置としてのサーバ側コンピュータとを有し、サーバ側コンピュータの画面上に表示されているアプリケーション又は画面の一部をクライアント側コンピュータと共有する情報処理システム、並びに情報処理装置とその情報処理方法に関する。

【0002】

【従来の技術】従来より、サーバ側コンピュータ（以下、「サーバ」という）の画面上に表示されているアプリケーション・ソフト（以下、「アプリケーション」という）又は画面の一部をクライアント側コンピュータ（以下、「クライアント」という）の画面上にも表示させ、サーバの入力カーソルをサーバとクライアントとで共有することにより、所望の共同作業を行う情報処理システムの存在が既に知られている。

【0003】この種の情報処理システムにおいては、サーバとクライアントとの間で共有しようとする共有領域がサーバのマウスドラッグを操作することにより設定さ

れ、また、両者で共有しようとするアプリケーションがサーバで起動されるときは、該アプリケーションのウインドウ全体が共有領域となるようにシステム構成されている。

【0004】

【発明が解決しようとする課題】しかしながら、上記従来の情報処理システムにおいては、サーバとクライアントとの画面解像度が互いに異なる場合、例えば、クライアントの有する表示画面より大きな共有領域がサーバから指定された場合、クライアントではかかる共有領域の全域を表示することができなくなり、このため、クライアントではサーバと同一画面を表示することができなくなる場合があるという問題点があった。

【0005】本発明はこのような問題点に鑑みなされたものであって、クライアントとサーバとで画面解像度が異なる場合であっても常に同一画面を表示することが可能な情報処理システム、並びに情報処理装置と情報処理方法を提供することを目的とする。

【0006】

【課題を解決するための手段】上記目的を達成するために、請求項1記載の発明は、所定通信網を介して接続された複数の情報処理装置を有し、これら複数の情報処理装置間における共有表示領域情報を取得する共有領域取得手段を備えた情報処理システムにおいて、前記共有領域取得手段による共有表示領域情報の取得動作開始前に前記複数の情報処理装置間で所定のシステム情報を交換する情報交換手段を備えていることを特徴としている。

【0007】また、請求項6記載の発明は、所定通信網を介して少なくとも1つ以上の端末に接続されると共に前記端末との間で共有表示領域情報を取得する共有領域取得手段を備えた情報処理装置において、前記共有領域取得手段による共有領域取得動作の開始前に前記端末との間で所定のシステム情報を交換する情報交換手段を備えていることを特徴としている。

【0008】さらに、請求項11記載の発明は、所定通信網を介して接続された複数の情報処理装置間で共有情報を取得し、該共有情報に基づいてこれら情報処理装置の表示画面上の所定表示領域を互いに共有して所定の情報処理を行う情報処理方法において、前記共有情報を取得する前に前記複数の情報処理装置間で所定のシステム情報を交換することを特徴としている。

【0009】

【発明の実施の形態】以下、本発明の実施の形態を図面に基いて詳説する。

【0010】図1は本発明に係る情報処理システムを構成するサーバ（情報処理装置）の一実施の形態（第1の実施の形態）を示すブロック構成図である。

【0011】図中、1はマウスやキーボード等からなる入力手段であって、該入力手段1は共有領域指定手段2及び共有アプリケーション選択手段3に接続され、さら

に前記共有領域指定手段2は制御コマンド転送手段4に接続されている。

【0012】共有領域指定手段2は、サーバに表示されている画面上からクライアントと共有しようとする画面の領域、或いはウインドウを指定するものであり、前記入力手段1のマウスを使用してドラッグされた長方形領域が共有領域となり、サーバとクライアントとで前記長方形領域が共有される。

【0013】制御コマンド転送手段4は、現在共有している画面内で行われる前記入力手段1を用いた操作を制御データ（動作パラメータ）としてサーバとクライアントとで送受信する。

【0014】共有アプリケーション選択手段3は、クライアントと共有するアプリケーションを選択する手段であって、ハードディスク等の第1の蓄積装置5及びメモリ等の記憶装置6が接続されている。第1の蓄積装置5はアプリケーションの実行ファイルの格納エリアとして使用され、記憶装置6はアプリケーション実行時におけるワークエリアとして使用される。さらに、該第1の蓄積装置5及び記憶装置6は、第2の蓄積装置7に接続され、共有領域内に表示されるべき描画データをクライアントの表示画面に表示させるための共有領域表示データが一時的に蓄積される。

【0015】また、前記制御コマンド転送手段4及び第2の蓄積装置7はデータ削減手段8に接続されている。

【0016】データ削減手段8は、前記第2の蓄積装置7から前記共有領域表示データを取り込み、前記制御コマンド転送手段4からの制御信号を介してデータ転送手段9に描画データが出力される。すなわち、第2の蓄積装置7に蓄積された共有領域表示データは、サーバの共有領域で表示されている描画データと同一の描画データを通信相手であるクライアントの表示画面に描画させるために前記データ削減手段8を介してデータ転送手段9に出力され、該データ転送手段9から描画データがクライアントに出力される。

【0017】図2は、前記共有領域の指定・拡大操作手順を示すフローチャートである。

【0018】本情報処理システムは、サーバからの共有領域の指定により起動される。そして、システムが起動すると、まず初期化が行われ、サーバとクライアントとの間で画面解像度やデータ転送能力等のシステム情報が相互に交換される（ステップS1）。すなわち、入力手段1により共有領域が指定されると共有領域指定手段2から共有領域指定情報を含むシステム情報が制御コマンド転送手段4に転送され、次いで、制御コマンド転送手段4から制御データとしての初期化データがクライアントに出力される。システム情報の内容には互いの端末の画面解像度、すなわち共有システムを動作させたときの共有画面として利用できる最大領域が含まれ、前記制御コマンド転送手段4からクライアントへ公衆回線網やL

AN等の所定通信網を介して情報交換される。

【0019】次いで、共有システムの初期化が終了すると共有システムの動作を開始し（ステップS2）、共有動作の終了が指示されたか否かを判断する（ステップS3）。そして、前記入力手段1の操作により共有動作の終了が指示されたとは判断したときは共有システムの動作を終了する一方、前記入力手段1の操作により共有動作の終了が指示されず、ドラッグ操作により変更されたときは、共有している領域の枠が広げられ、ドラッグされた方向に沿って大きな領域に変更される。すなわち、図4に示すように、表示画面11内部の任意図形が表示されている共有領域12が、共有カーソル13を介して変更される。そして、このとき前記共有領域の大きさの変更が共有領域指定手段2から制御コマンド転送手段4に転送され、共有領域変更情報が制御データとして制御コマンド転送手段4からクライアントに出力される。

【0020】次に、ステップS5に進み、共有領域の指定領域が指定可能範囲を超えたか否かを判断する。そして、その答が否定（No）のときはステップS3に戻って上述の処理を繰り返す一方、ステップS5の答が否定（No）のとき、すなわち、ステップS1で予め情報交換している共有領域の最大領域より大きな共有領域指定がなされた場合は、ステップS6に進み、描画データの削減が行われ、ステップS3に戻る。すなわち、制御コマンド転送手段4からデータ削減手段8に制御コマンドが出力される。そして、前記データ削減手段8において、共有領域内の描画データが縦方向及び横方向に、例えば1/2にサブサンプリングされて減少される。これにより、間引かれた描画データがデータ転送手段9に出力され、クライアントに描画データが出力される。

【0021】図3は、クライアント及びサーバで共有しようとするアプリケーションが新たに起動された場合に共有ウインドウを指定する場合の処理手順を示すフローチャートである。

【0022】ステップS11では、図2のステップS1と同様の手法により共有システムの初期化が行われ、次いで共有アプリケーション選択手段3によりクライアントと共有しようとするアプリケーションが指定される（ステップS12）。これにより、指定されたアプリケーションが第1の蓄積装置5から読み出され、アプリケーションが起動される。そして続くステップS13ではアプリケーションの初期化が行われる。すなわち、起動されたアプリケーションではアプリケーションの動作パラメータやウインドウ表示装置或いはウインドウ領域が前回のアプリケーション終了時と同一となるように当該アプリケーションが独自に保存していた設定ファイルを前記第1の蓄積装置5から読み込んでアプリケーションを初期化する。次いで、ステップS14ではアプリケーションウインドウが共有指定可能範囲を超えているか否かを判断する。そして、その答が否定（No）のときは

ステップS16に進む一方、その答が肯定(Yes)のとき、すなわちアプリケーションの初期化によってステップS11で情報交換された共有領域の最大領域より大きなウインドウ領域になったときは共有領域内の描画データを縦方向及び横方向にサブサンプリングして描画データを減少させる(ステップS15)。すなわち、共有領域指定手段2では起動されたアプリケーションが表示するウインドウ全体が一旦共有領域として指定されるが、上述のように最大領域よりも大きなウインドウ領域が表示された場合はかかる表示情報が共有領域指定手段2から制御コマンド転送手段4に転送され、さらに該制御コマンド転送手段4からデータ削減手段8に転送される。そしてデータ削減手段8では、図2のステップS6と同様にして描画データの削減処理が行われ、クライアントに出力される。次いで、ステップS16では共有指定の解除が指示されたか否かを判断し、共有指定の解除が指示されていないときは解除の指示があるまで待機する一方、入力手段1の操作を介して共有指示が解除されたときは共有していたアプリケーションの動作を終了させて(ステップS17)処理を終了する。

【0023】このようにアプリケーションウインドウが共有指定可能範囲を越えている場合であっても描画データを間引くことにより、サーバ・クライアント間で互いに指定可能な範囲内で共有システムを動作させることができる。

【0024】図5は第2の実施の形態を示すブロック構成図であって、本第2の実施の形態データ削減手段が省略されている。すなわち、本第2の実施の形態では共有領域が指定可能範囲を超えた場合は、描画データを減少させる代わりに、領域拡大操作を禁止し、或いはウインドウ領域を指定可能範囲に変更している。

【0025】図6は、第2の実施の形態に係る共有領域の指定・拡大操作手順を示すフローチャートである。

【0026】すなわち、上記第1の実施の形態と同様、ステップS1～ステップS4の処理を実行し、ステップS5でステップS1で予め情報交換された共有領域の最大領域より大きな共有領域が指定されようとした場合は、領域拡大操作を禁止することにより、共有している領域の枠が拡大表示されないようにし、指定範囲を超える共有領域の指定ができないようにしている(ステップS6')。

【0027】図7は、第2の実施の形態に係る共有ウインドウ指定手順を示すフローチャートである。

【0028】すなわち、上記第1の実施の形態と同様、ステップS11～ステップS13の処理を実行し、ステップS14で、ステップS11で予め情報交換している共有領域の最大領域より大きなウインドウ領域になって

しまった場合はアプリケーションのウインドウ領域をステップS11で情報交換された最大領域に減少させ(ステップS15')ステップS16以降の処理を実行する。

【0029】このように表示画面又はアプリケーションウインドウが共有指定可能範囲を越えた場合、描画データを削減する代わりに、最大表示領域を越える拡大操作を禁止することにより、上記第1の実施の形態と同様、サーバ・クライアント間で互いに指定可能な範囲内で共有システムを動作させることができる。

【0030】

【発明の効果】以上詳述したように本発明によれば、共有情報取得動作の開始前に複数の通信端末間で所定のシステム情報を交換するので、各通信端末間の画面解像度が異なる場合であっても、共有領域として指定できる領域の大きさに制限を設けることができなくなり、各通信端末間で互いに指定可能な領域で共有システムを動作させることができるようになる。

【0031】また、共有しようとするアプリケーションが前回起動されたときと同一設定で起動され且つウインドウ領域が大きくなって共有領域に納まらない場合であっても、共有システムの動作パラメータの設定が後から実行されるので、共有したアプリケーションのウインドウ領域を共有システムが共有可能な領域に表示し直すことができ、また、共有領域を越えたときは一の通信端末から他の通信端末に転送される描画データのデータ量が少なくなる。

【図面の簡単な説明】

【図1】本発明に係る情報処理システムの一実施の形態(第1の実施の形態)を示すブロック構成図である。

【図2】本発明に係る情報処理方法の共有領域指定・拡大操作手順を示すフローチャートである。

【図3】本発明に係る情報処理方法の共有ウインドウの指定手順を示すフローチャートである。

【図4】共有領域の拡大する様子を示す表示画面の図である。

【図5】情報処理システムの第2の実施の形態を示すブロック構成図である。

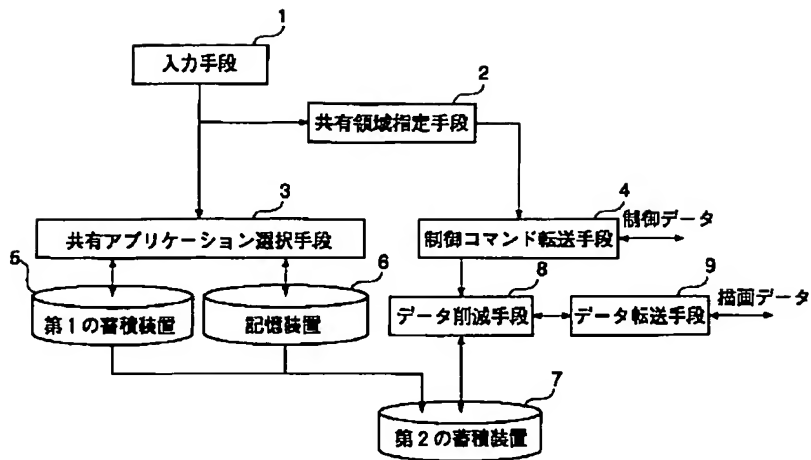
【図6】共有領域指定・拡大操作手順の第2の実施の形態を示すフローチャートである。

【図7】共有ウインドウの指定手順の第2の実施の形態を示すフローチャートである。

【符号の説明】

- 2 共有領域指定手段(共有情報取得手段)
- 4 制御コマンド転送手段(情報交換手段)
- 8 データ削減手段(サブサンプリング手段)
- 9 データ転送手段(転送手段)

【図 1】



【図 2】

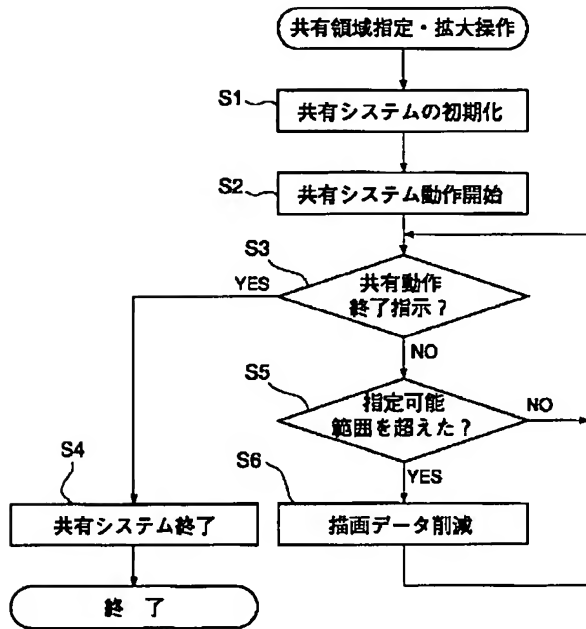
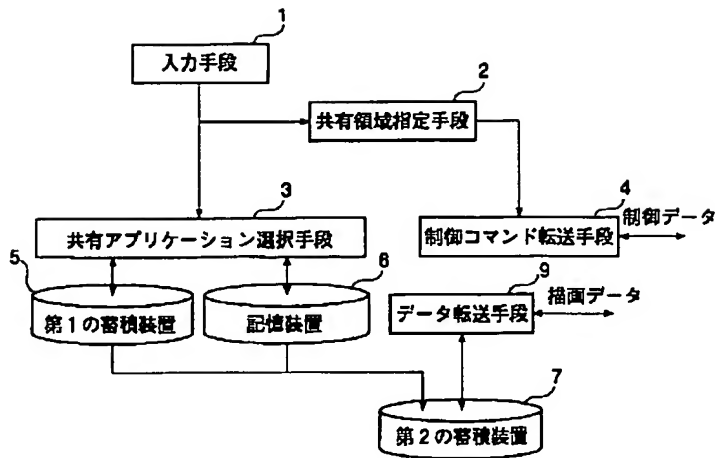


Figure 1 is a schematic diagram of a computer system 10. The system includes a monitor 11 displaying a spreadsheet application 12. The spreadsheet shows a 'Share' window with a '表計算' (Spreadsheet) tab. The active sheet is 'SHEET1', which contains a table with columns 1, 2, 3, and 4. The data in the table is as follows:

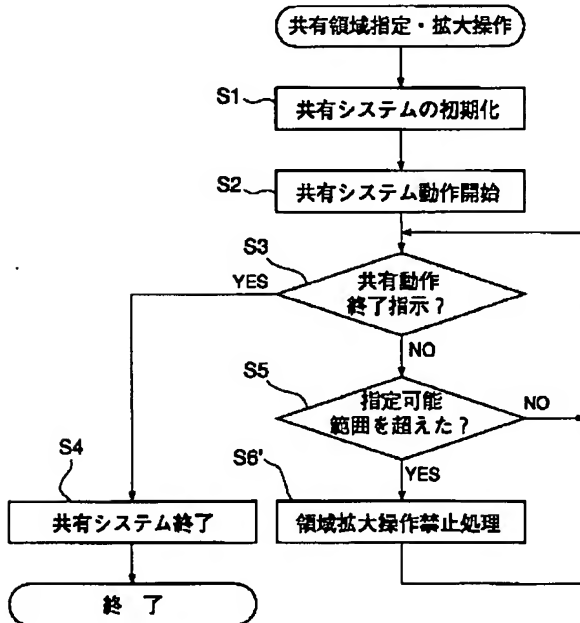
	1	2	3	4
123	04879	0.06		
450	987987	0.23		
789	987	0.99		

A mouse cursor 13 is pointing at the bottom right corner of the spreadsheet application window.

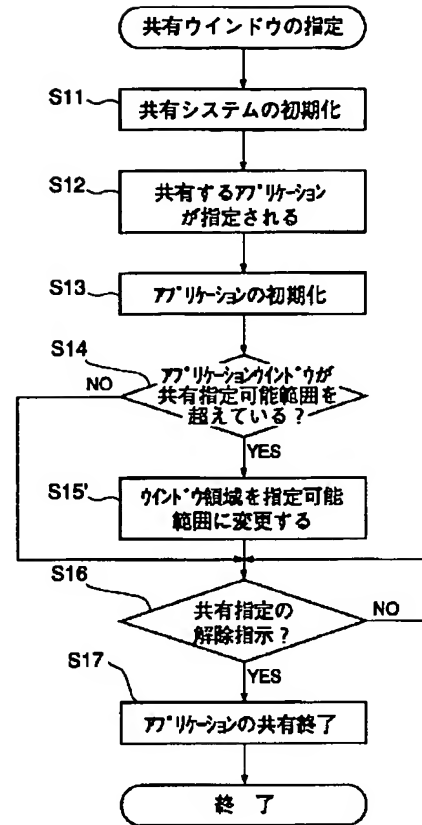
【図5】



【図6】



【図7】



PATENT ABSTRACTS OF JAPAN

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(21)Application number : 08-199569 (71)Applicant : CANON INC

(22)Date of filing : 11.07.1996 (72)Inventor : KAWAI HIDEO

(54) SYSTEM, PROCESSOR, AND METHOD FOR INFORMATION PROCESSING

(57)Abstract:

PROBLEM TO BE SOLVED: To display the same image at all times even if a client and a server are different in image resolution by providing an information exchanging means which exchanges specific system information among information processors before a common area acquiring means begins to acquire common display area information.

SOLUTION: The system when started is initialized first and system information such as image resolution and data transfer capability is interchanged between the server and client. Namely, when a common area is specified through an input means 1, a common area specifying means 2 transfers the system information including common area specification information to a control command transfer means 4, which then outputs initialization data as control data to the client. The system information includes image resolution data on the screens of both the terminals and a maximum area which is usable as the common screen, and the information is exchanged from the control command transfer means 4 to the client through a specific communication network such as a public telephone network and a LAN.

LEGAL STATUS [Date of request for examination]

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[Patent number]

[Date of registration]

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[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

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1. This document has been translated by computer. So the translation may not reflect the original precisely.
 2. **** shows the word which can not be translated.
 3. In the drawings, any words are not translated.
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CLAIMS

[Claim(s)]

[Claim 1] Information processing system characterized by to have an information-interchange means exchange system information predetermined between said two or more information processors, in the information processing system equipped with a shared area acquisition means to have two or more information processors connected through the predetermined communication network, and to acquire the share viewing-area information between the information processors of these plurality, before acquisition actuation initiation of the share viewing-area information by said shared area acquisition means.

[Claim 2] Said system information is information processing system according to claim 1 characterized by having a subsampling means to carry out subsampling of the drawing information on this screen-display field, and to display on other information processors when said screen-display field where said share viewing-area information exceeds said maximum viewing-area information with said shared area acquisition means including a screen-display field is specified from the information processor of 1, while including the maximum viewing-area information which can be displayed with said information processor.

[Claim 3] Said system information is information processing system according to claim 1 or 2 characterized by having a subsampling means to carry out subsampling of the drawing information in this window field, and to display on other information processors when the window area where said share viewing-area information crosses said window possible field with said shared area acquisition means including the window area of said application is specified from the information processor of 1, while including the window possible field of the application which operates on said information processor.

[Claim 4] Said system information is the information processing system according to claim 1 characterized by to have a shared area assignment prohibition means forbid expansion assignment of the screen-display field which exceeds this maximum viewing-area information when said screen-display field where said share viewing-area information exceeds said maximum viewing-area information with said shared area acquisition means including a screen-display field is specified from the information processor of 1, while including the maximum viewing-area information which can be displayed with said information processor.

[Claim 5] Said system information is the information processing system according to claim 1 or 2 characterized by to have a field limit means restrict this window area to said maximum viewing-area information when said window area where said share viewing-area information crosses said window possible field with said shared area acquisition means including the window area of said application is acquired by the information processor of 1, while including the window possible field of the application which operates on the maximum viewing-area information which can be displayed with said information processor, and said information processor.

[Claim 6] The information processor characterized by having an information-interchange means to exchange system information predetermined between said terminals, in the information processor equipped with a shared area acquisition means to acquire share viewing-area information between said terminals while connecting with at least one or more terminals through a predetermined communication network, before initiation of the shared area acquisition actuation by said shared area acquisition means.

[Claim 7] Said system information is an information processor according to claim 6 characterized by to have a transfer means carry out subsampling of the drawing information in this screen-display field, and transmit this drawing information to said terminal when said screen-display field where said share viewing-area information exceeds said maximum viewing-area information with said shared area acquisition means including a screen-display field is acquired, while including the maximum viewing-area information which can be displayed between said terminals.

[Claim 8] Said system information is an information processor according to claim 6 or 7 characterized by having a transfer means to carry out subsampling of the drawing information in this window field, and to ** this drawing information to said terminal when the window field where said share viewing-area information crosses said window possible field with said shared area acquisition means including the window area of said application is acquired, while including the window possible field of the application which operates between said terminals.

[Claim 9] Said system information is an information processor according to claim 6 characterized by to have a shared area assignment prohibition means forbid expansion assignment of the screen-display field which exceeds this maximum viewing-area information when said screen-display field where said share viewing-area information exceeds said maximum viewing-area information with said shared area acquisition means including a screen-display field is acquired, while including the maximum viewing-area information which can be displayed between said terminals.

[Claim 10] Said system information is an information processor according to claim 6 or 7 characterized by to have a field limit means restrict this window area to the maximum viewing-area information when said window area where said share viewing-area information crosses said window possible field with said shared area acquisition means including the window area of said application is acquired, while including the window possible field of the application which operates between the maximum viewing-area information which can be displayed between said terminals, and said terminal.

[Claim 11] The information processing approach characterized by exchanging system information predetermined between said two or more information processors before acquiring share information among two or more information processors connected through the predetermined communication network and acquiring said share information in the information processing approach of sharing mutually the predetermined viewing area on the display screen of these information processors based on this share information, and performing predetermined information processing.

[Claim 12] Said system information is the information processing approach according to claim 11 characterized by carrying out subsampling of the drawing information in this screen-display field, and transmitting this drawing information to said information processor when the screen-display field where said share viewing-area information exceeds said maximum viewing-area information including a screen-display field is acquired, while including the maximum viewing-area information which can be displayed with said information processor.

[Claim 13] Said system information is the information processing approach according to claim 11 or 12 characterized by what subsampling of the drawing information in this window field is carried out, and is displayed on other information processors when the window area where said share viewing-area information crosses said window possible field including said window area is specified from the information processor of 1, while including the window possible field of the application which operates on said information processor.

[Claim 14] Said system information is an information processor according to claim 11 characterized by forbidding assignment of the shared area which exceeds said maximum viewing-area information when the shared area exceeding said maximum viewing-area information is acquired including the maximum viewing-area information which can be displayed with said information processor.

[Claim 15] Said system information is the information processing approach according to claim 11 or 12 characterized by restricting this window area to the maximum viewing-area information when said window area crosses [said share viewing-area information]

said window possible field including the window area of said application while including the window possible field of the application which operates on the maximum viewing-area information which can be displayed with said information processor, and said information processor.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention has a client side computer as an information processor in which a user does a direct control to information processing system and a list in more detail about an information processor and the information processing approach, and a server side computer as an information processor which processes by the demand from this client side computer, and relates to an information processor and its information processing approach at the information processing system and the list which share with a client side computer some of applications currently displayed on the screen of a server side computer, or screens.

[0002]

[Description of the Prior Art] Existence of the information processing system which does a desired joint activity is already known by displaying conventionally some of application software (henceforth "application") currently displayed on the screen of a server side computer (henceforth a "server"), or screens also on the screen of a client side

computer (henceforth a "client"), and sharing the input cursor of a server between a server and a client.

[0003] In this kind of information processing system, when the application which it is set up when the shared area which it is going to share between a server and a client operates the mouse drag of a server, and it is going to share between both is started by the server, the system configuration is carried out so that the whole window of this application may serve as a shared area.

[0004]

[Problem(s) to be Solved by the Invention] However, in the above-mentioned conventional information processing system, when the screen resolution of a server and a client differed mutually (for example, when a bigger shared area than the display screen which a client has is specified from a server), it becomes impossible to have displayed the whole region of this shared area, and, for this reason, there was a trouble that there was a case where it becomes impossible to display the same screen as a server, by the client at a client.

[0005] This invention is made in view of such a trouble, and even if it is the case where a client differs in screen resolution from a server, it aims at providing with an information processor and the information processing approach the information processing system which can always display the same screen, and a list.

[0006]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, invention according to claim 1 has two or more information processors connected through the predetermined communication network, and is characterized by to have an information-interchange means exchange system information predetermined between

two or more of said information processors, before acquisition actuation initiation of the share viewing-area information by said shared area acquisition means in the information processing system equipped with a shared area acquisition means acquire the share viewing-area information between the information processors of these plurality.

[0007] Moreover, invention according to claim 6 is characterized by having an information-interchange means to exchange system information predetermined between said terminals, before initiation of the shared area acquisition actuation by said shared area acquisition means in the information processor equipped with a shared area acquisition means to acquire share viewing-area information between said terminals while connecting with at least one or more terminals through a predetermined communication network.

[0008] Furthermore, before invention according to claim 11 acquires share information among two or more information processors connected through the predetermined communication network and acquires said share information in the information processing approach of sharing mutually the predetermined viewing area on the display screen of these information processors based on this share information, and performing predetermined information processing, it is characterized by exchanging system information predetermined between said two or more information processors.

[0009]

[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained in full detail based on a drawing.

[0010] Drawing 1 is the block block diagram showing the gestalt (gestalt of the 1st operation) of 1 operation of the server (information processor) which constitutes the information processing system concerning this invention.

[0011] One is an input means which consists of a mouse, a keyboard, etc. among drawing, this input means 1 is connected to the shared area assignment means 2 and the share application selection means 3, and said shared area assignment means 2 is further connected to the control command transfer means 4.

[0012] The shared area assignment means 2 specifies the field of the screen which it is going to share with a client from on the screen currently displayed on the server, or a window, the rectangle region dragged using the mouse of said input means 1 turns into a shared area, and said rectangle region is shared by a server and the client.

[0013] The control command transfer means 4 is transmitted and received by the server and the client by using as control data (operational parameter) actuation using said input means 1 performed in the screen which is carrying out the current share.

[0014] The share application selection means 3 is a means to choose the application shared with a client, and the storage 6, such as the 1st are recording equipment 5, such as a hard disk, and memory, is connected. The 1st are recording equipment 5 is used as a storage area of the execution file of application, and storage 6 is used as a work area at the time of application activation. furthermore -- this -- the 1st are recording equipment 5 and store 6 are connected to the 2nd are recording equipment 7, and the shared area indicative data for displaying on the display screen of a client the drawing data which should be displayed in a shared area is accumulated temporarily.

[0015] Moreover, said control command transfer means 4 and the 2nd are recording equipment 7 are connected to the data reduction means 8.

[0016] The data reduction means 8 incorporates said shared area indicative data from said 2nd are recording equipment 7, and drawing data are outputted to the data transfer means 9 through the control signal from said control command transfer means 4. That

is, in order that the shared area indicative data accumulated in the 2nd are recording equipment 7 may make the display screen of the client which is a communications partner draw the same drawing data as the drawing data currently displayed in the shared area of a server, it is outputted to the data transfer means 9 through said data reduction means 8, and drawing data are outputted to a client from this data transfer means 9.

[0017] Drawing 2 is a flow chart which shows assignment / expansion operating procedure of said shared area.

[0018] This information processing system is started by assignment of the shared area from a server. And if a system starts, initialization will be performed first and it will be mutually exchanged in system information, such as screen resolution and data transfer capacity, between a server and a client (step S1). That is, if a shared area is specified by the input means 1, the system information which includes shared area assignment information from the shared area assignment means 2 will be transmitted to the control command transfer means 4, and, subsequently to a client, the initialization data as control data will be outputted from the control command transfer means 4. The maximum field which can be used for the contents of system information as a share screen when operating, the screen resolution, i.e., the share system, of a mutual terminal, is included, and information is exchanged through predetermined communication networks, such as a public line network and LAN, to a client from said control command transfer means 4.

[0019] Subsequently, after initialization of a share system is completed, actuation of a share system is started (step S2), and it judges whether termination of share actuation was directed (step S3). And when it judges that termination of share actuation was

directed by actuation of said input means 1, while ending actuation of a share system, when termination of share actuation is not directed by actuation of said input means 1 but it is changed by drag actuation, it can extend and the frame of the field are sharing is changed into a big field along the dragged direction. That is, as shown in drawing 4, the shared area 12 where the arbitration graphic form of the display screen 11 interior is displayed is changed through the share cursor 13. And modification of the magnitude of said shared area is transmitted to the control command transfer means 4 from the shared area assignment means 2 at this time, and shared area modification information is outputted to a client from the control command transfer means 4 as control data.

[0020] Next, it progresses to step S5 and judges whether the appointed field of a shared area exceeded the range which can be specified. And when bigger shared area assignment than the maximum field of the shared area the information about is beforehand exchanged at step S1 is made when the answer of step S5 is negation (No) namely, while returning to step S3 and repeating above-mentioned processing, when the answer is negation (No), it progresses to step S6, reduction of drawing data is performed, and it returns to step S3. That is, control command is outputted to the data reduction means 8 from the control command transfer means 4. And in said data reduction means 8, in a lengthwise direction and a longitudinal direction, subsampling of the drawing data in a shared area is carried out to one half, and they decrease in number. The thinned-out drawing data are outputted to the data transfer means 9 by this, and drawing data are outputted to a client.

[0021] Drawing 3 is a flow chart which shows the procedure in the case of specifying a share window, when the application which it is going to share between a client and a server is newly started.

[0022] At step S11, initialization of a share system is performed by the same technique as step S1 of drawing 2 , and the application which it is subsequently going to share with a client with the share application selection means 3 is specified (step S12). The specified application is read from the 1st are recording equipment 5 by this, and application is started. And initialization of application is performed at continuing step S13. That is, in the started application, the application concerned reads the configuration file saved uniquely from said 1st are recording equipment 5, and initializes application so that the operational parameter, the window display equipment, or the window area of application may become the same as that of the time of the last application termination. Subsequently, at step S14, it judges whether the application window has exceeded the range which can be share specified. And when the answer is negation (No), while progressing to step S16, when the answer is affirmation (Yes) (i.e., when it becomes a bigger window field than the maximum field of the shared area where information was exchanged by initialization of application at step S11), subsampling of the drawing data in a shared area is carried out to a lengthwise direction and a longitudinal direction, and drawing data are decreased (step S15). That is, although the whole window which the started application displays is once specified as a shared area with the shared area assignment means 2, when a bigger window area as mentioned above than the maximum field is displayed, this display information is transmitted to the control command transfer means 4 from the shared area assignment means 2, and is further transmitted to the data reduction means 8 from this control command transfer means 4. And with the data reduction means 8, reduction processing of drawing data is performed like step S6 of drawing 2 , and it is outputted to a client. Subsequently, while standing by until directions of discharge are when it judges whether

discharge of share assignment was directed at step S16 and discharge of share assignment is not directed, when share directions are canceled through actuation of the input means 1, actuation of the application were sharing is terminated and processing (step S17) is ended.

[0023] Thus, even if it is the ** case to which the application window has crossed the range which can be share specified, by thinning out drawing data, a share system can be mutually operated between server clients within limits which can be specified.

[0024] Drawing 5 is the block block diagram showing the gestalt of the 2nd operation, and the gestalt data reduction means of operation of **** 2 is omitted. That is, with the gestalt of operation of **** 2, instead of decreasing drawing data, when a shared area exceeds the range which can be specified, field expansion actuation was forbidden or the window area is changed into the range which can be specified.

[0025] Drawing 6 is a flow chart which shows assignment / expansion operating procedure of the shared area concerning the gestalt of the 2nd operation.

[0026] Namely, processing of step S1 - step S4 is performed like the gestalt of implementation of the above 1st. When a bigger shared area than the maximum field of the shared area where information was beforehand exchanged at step S1 by step S5 tends to be specified The enlarged display of the frame of the field currently shared is made not to be carried out, and it can be made not to perform assignment of the shared area exceeding the appointed range by forbidding field expansion actuation (step S6').

[0027] Drawing 7 is a flow chart which shows the share window assignment procedure concerning the gestalt of the 2nd operation.

[0028] That is, like the gestalt of implementation of the above 1st, processing of step S11 - step S13 is performed, at step S14, when it is a bigger window area than the

maximum field of the shared area the information about is beforehand exchanged at step S11, the maximum field to which the information about the window area of application was exchanged at step S11 is decreased (step S15'), and processing after step S16 is performed.

[0029] Thus, a share system can be mutually operated between server clients like the gestalt of implementation of the above 1st by forbidding the expansion actuation exceeding the maximum viewing area within limits which can be specified instead of reducing drawing data, when a display screen or an application window crosses the range which can be share specified.

[0030]

[Effect of the Invention] Since system information predetermined between two or more communication terminals is exchanged before initiation of share information acquisition actuation according to this invention as explained in full detail above, even if it is the case where the screen resolution between each communication terminal differs, it becomes impossible to prepare a limit in the area size which can be specified as a shared area, and a share system can be mutually operated between each communication terminal in the field which can be specified.

[0031] Moreover, even if it is the case where it is started by the same setup as the time of the application which it is going to share being started last time, and a window area becomes large, and it is not restored to a shared area Since a setup of the operational parameter of a share system is performed later, the window area of the shared application can be redisplayed on the field which can share a share system. Moreover, when a shared area is crossed, the amount of data of the drawing data transmitted to other communication terminals from the communication terminal of 1 decreases.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the block block diagram showing the gestalt (gestalt of the 1st operation) of 1 operation of the information processing system concerning this invention.

[Drawing 2] It is the flow chart which shows shared area assignment / expansion operating procedure of the information processing approach concerning this invention.

[Drawing 3] It is the flow chart which shows the assignment procedure of the share window of the information processing approach concerning this invention.

[Drawing 4] It is drawing of the display screen in which signs that a shared area is expanded are shown.

[Drawing 5] It is the block block diagram showing the gestalt of operation of the 2nd of information processing system.

[Drawing 6] It is the flow chart which shows the gestalt of implementation of the 2nd of shared area assignment / expansion operating procedure.

[Drawing 7] It is the flow chart which shows the gestalt of implementation of the 2nd of the assignment procedure of a share window.

[Description of Notations]

2 Shared Area Assignment Means (Share Information Acquisition Means)

4 Control Command Transfer Means (Information-Interchange Means)

8 Data Reduction Means (Subsampling Means)

9 Data Transfer Means (Transfer Means)

PATENT ABSTRACTS OF JAPAN

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(21)Application number : 08-199569 (71)Applicant : CANON INC

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(54) SYSTEM, PROCESSOR, AND METHOD FOR INFORMATION PROCESSING

(57)Abstract:

PROBLEM TO BE SOLVED: To display the same image at all times even if a client and a server are different in image resolution by providing an information exchanging means which exchanges specific system information among information processors before a common area acquiring means begins to acquire common display area information.

SOLUTION: The system when started is initialized first and system information such as image resolution and data transfer capability is interchanged between the server and client. Namely, when a common area is specified through an input means 1, a common area specifying means 2 transfers the system information including common area specification information to a control command transfer means 4, which then outputs initialization data as control data to the client. The system information includes image resolution data on the screens of both the terminals and a maximum area which is usable as the common screen, and the information is exchanged from the control command transfer means 4 to the client through a specific communication network such as a public telephone network and a LAN.

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1. This document has been translated by computer. So the translation may not reflect the original precisely.
 2. **** shows the word which can not be translated.
 3. In the drawings, any words are not translated.
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CLAIMS

[Claim(s)]

[Claim 1] Information processing system characterized by to have an information-interchange means exchange system information predetermined between said two or more information processors, in the information processing system equipped with a shared area acquisition means to have two or more information processors connected through the predetermined communication network, and to acquire the share viewing-area information between the information processors of these plurality, before acquisition actuation initiation of the share viewing-area information by said shared area acquisition means.

[Claim 2] Said system information is information processing system according to claim 1 characterized by having a subsampling means to carry out subsampling of the drawing information on this screen-display field, and to display on other information processors when said screen-display field where said share viewing-area information exceeds said maximum viewing-area information with said shared area acquisition means including a screen-display field is specified from the information processor of 1, while including the maximum viewing-area information which can be displayed with said information processor.

[Claim 3] Said system information is information processing system according to claim 1 or 2 characterized by having a subsampling means to carry out subsampling of the drawing information in this window field, and to display on other information processors when the window area where said share viewing-area information crosses said window possible field with said shared area acquisition means including the window area of said application is specified from the information processor of 1, while including the window possible field of the application which operates on said information processor.

[Claim 4] Said system information is the information processing system according to claim 1 characterized by to have a shared area assignment prohibition means forbid expansion assignment of the screen-display field which exceeds this maximum viewing-area information when said screen-display field where said share viewing-area information exceeds said maximum viewing-area information with said shared area acquisition means including a screen-display field is specified from the information processor of 1, while including the maximum viewing-area information which can be displayed with said information processor.

[Claim 5] Said system information is the information processing system according to claim 1 or 2 characterized by to have a field limit means restrict this window area to said maximum viewing-area information when said window area where said share viewing-area information crosses said window possible field with said shared area acquisition means including the window area of said application is acquired by the information processor of 1, while including the window possible field of the application which operates on the maximum viewing-area information which can be displayed with said information processor, and said information processor.

[Claim 6] The information processor characterized by having an information-interchange means to exchange system information predetermined between said terminals, in the information processor equipped with a shared area acquisition means to acquire share viewing-area information between said terminals while connecting with at least one or more terminals through a predetermined communication network, before initiation of the shared area acquisition actuation by said shared area acquisition means.

[Claim 7] Said system information is an information processor according to claim 6 characterized by to have a transfer means carry out subsampling of the drawing information in this screen-display field, and transmit this drawing information to said terminal when said screen-display field where said share viewing-area information exceeds said maximum viewing-area information with said shared area acquisition means including a screen-display field is acquired, while including the maximum viewing-area information which can be displayed between said terminals.

[Claim 8] Said system information is an information processor according to claim 6 or 7 characterized by having a transfer means to carry out subsampling of the drawing information in this window field, and to ** this drawing information to said terminal when the window field where said share viewing-area information crosses said window possible field with said shared area acquisition means including the window area of said application is acquired, while including the window possible field of the application which operates between said terminals.

[Claim 9] Said system information is an information processor according to claim 6 characterized by to have a shared area assignment prohibition means forbid expansion assignment of the screen-display field which exceeds this maximum viewing-area information when said screen-display field where said share viewing-area information exceeds said maximum viewing-area information with said shared area acquisition means including a screen-display field is acquired, while including the maximum viewing-area information which can be displayed between said terminals.

[Claim 10] Said system information is an information processor according to claim 6 or 7 characterized by to have a field limit means restrict this window area to the maximum viewing-area information when said window area where said share viewing-area information crosses said window possible field with said shared area acquisition means including the window area of said application is acquired, while including the window possible field of the application which operates between the maximum viewing-area information which can be displayed between said terminals, and said terminal.

[Claim 11] The information processing approach characterized by exchanging system information predetermined between said two or more information processors before acquiring share information among two or more information processors connected through the predetermined communication network and acquiring said share information in the information processing approach of sharing mutually the predetermined viewing area on the display screen of these information processors based on this share information, and performing predetermined information processing.

[Claim 12] Said system information is the information processing approach according to claim 11 characterized by carrying out subsampling of the drawing information in this screen-display field, and transmitting this drawing information to said information processor when the screen-display field where said share viewing-area information exceeds said maximum viewing-area information including a screen-display field is acquired, while including the maximum viewing-area information which can be displayed with said information processor.

[Claim 13] Said system information is the information processing approach according to claim 11 or 12 characterized by what subsampling of the drawing information in this window field is carried out, and is displayed on other information processors when the window area where said share viewing-area information crosses said window possible field including said window area is specified from the information processor of 1, while including the window possible field of the application which operates on said information processor.

[Claim 14] Said system information is an information processor according to claim 11 characterized by forbidding assignment of the shared area which exceeds said maximum viewing-area information when the shared area exceeding said maximum viewing-area information is acquired including the maximum viewing-area information which can be displayed with said information processor.

[Claim 15] Said system information is the information processing approach according to claim 11 or 12 characterized by restricting this window area to the maximum viewing-area information when said window area crosses [said share viewing-area information]

said window possible field including the window area of said application while including the window possible field of the application which operates on the maximum viewing-area information which can be displayed with said information processor, and said information processor.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention has a client side computer as an information processor in which a user does a direct control to information processing system and a list in more detail about an information processor and the information processing approach, and a server side computer as an information processor which processes by the demand from this client side computer, and relates to an information processor and its information processing approach at the information processing system and the list which share with a client side computer some of applications currently displayed on the screen of a server side computer, or screens.

[0002]

[Description of the Prior Art] Existence of the information processing system which does a desired joint activity is already known by displaying conventionally some of application software (henceforth "application") currently displayed on the screen of a server side computer (henceforth a "server"), or screens also on the screen of a client side

computer (henceforth a "client"), and sharing the input cursor of a server between a server and a client.

[0003] In this kind of information processing system, when the application which it is set up when the shared area which it is going to share between a server and a client operates the mouse drag of a server, and it is going to share between both is started by the server, the system configuration is carried out so that the whole window of this application may serve as a shared area.

[0004]

[Problem(s) to be Solved by the Invention] However, in the above-mentioned conventional information processing system, when the screen resolution of a server and client differed mutually (for example, when a bigger shared area than the display screen which a client has is specified from a server), it becomes impossible to have displayed the whole region of this shared area, and, for this reason, there was a trouble that there was a case where it becomes impossible to display the same screen as a server, by the client at a client.

[0005] This invention is made in view of such a trouble, and even if it is the case where a client differs in screen resolution from a server, it aims at providing with an information processor and the information processing approach the information processing system which can always display the same screen, and a list.

[0006]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, invention according to claim 1 has two or more information processors connected through the predetermined communication network, and is characterized by to have an information-interchange means exchange system information predetermined between

two or more of said information processors, before acquisition actuation initiation of the share viewing-area information by said shared area acquisition means in the information processing system equipped with a shared area acquisition means acquire the share viewing-area information between the information processors of these plurality.

[0007] Moreover, invention according to claim 6 is characterized by having an information-interchange means to exchange system information predetermined between said terminals, before initiation of the shared area acquisition actuation by said shared area acquisition means in the information processor equipped with a shared area acquisition means to acquire share viewing-area information between said terminals while connecting with at least one or more terminals through a predetermined communication network.

[0008] Furthermore, before invention according to claim 11 acquires share information among two or more information processors connected through the predetermined communication network and acquires said share information in the information processing approach of sharing mutually the predetermined viewing area on the display screen of these information processors based on this share information, and performing predetermined information processing, it is characterized by exchanging system information predetermined between said two or more information processors.

[0009]

[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained in full detail based on a drawing.

[0010] Drawing 1 is the block block diagram showing the gestalt (gestalt of the 1st operation) of 1 operation of the server (information processor) which constitutes the information processing system concerning this invention.

[0011] One is an input means which consists of a mouse, a keyboard, etc. among drawing, this input means 1 is connected to the shared area assignment means 2 and the share application selection means 3, and said shared area assignment means 2 is further connected to the control command transfer means 4.

[0012] The shared area assignment means 2 specifies the field of the screen which it is going to share with a client from on the screen currently displayed on the server, or a window, the rectangle region dragged using the mouse of said input means 1 turns into a shared area, and said rectangle region is shared by a server and the client.

[0013] The control command transfer means 4 is transmitted and received by the server and the client by using as control data (operational parameter) actuation using said input means 1 performed in the screen which is carrying out the current share.

[0014] The share application selection means 3 is a means to choose the application shared with a client, and the storage 6, such as the 1st are recording equipment 5, such as a hard disk, and memory, is connected. The 1st are recording equipment 5 is used as a storage area of the execution file of application, and storage 6 is used as a work area at the time of application activation. furthermore -- this -- the 1st are recording equipment 5 and store 6 are connected to the 2nd are recording equipment 7, and the shared area indicative data for displaying on the display screen of a client the drawing data which should be displayed in a shared area is accumulated temporarily.

[0015] Moreover, said control command transfer means 4 and the 2nd are recording equipment 7 are connected to the data reduction means 8.

[0016] The data reduction means 8 incorporates said shared area indicative data from said 2nd are recording equipment 7, and drawing data are outputted to the data transfer means 9 through the control signal from said control command transfer means 4. That

is, in order that the shared area indicative data accumulated in the 2nd are recording equipment 7 may make the display screen of the client which is a communications partner draw the same drawing data as the drawing data currently displayed in the shared area of a server, it is outputted to the data transfer means 9 through said data reduction means 8, and drawing data are outputted to a client from this data transfer means 9.

[0017] Drawing 2 is a flow chart which shows assignment / expansion operating procedure of said shared area.

[0018] This information processing system is started by assignment of the shared area from a server. And if a system starts, initialization will be performed first and it will be mutually exchanged in system information, such as screen resolution and data transfer capacity, between a server and a client (step S1). That is, if a shared area is specified by the input means 1, the system information which includes shared area assignment information from the shared area assignment means 2 will be transmitted to the control command transfer means 4, and, subsequently to a client, the initialization data as control data will be outputted from the control command transfer means 4. The maximum field which can be used for the contents of system information as a share screen when operating, the screen resolution, i.e., the share system, of a mutual terminal, is included, and information is exchanged through predetermined communication networks, such as a public line network and LAN, to a client from said control command transfer means 4.

[0019] Subsequently, after initialization of a share system is completed, actuation of a share system is started (step S2), and it judges whether termination of share actuation was directed (step S3). And when it judges that termination of share actuation was

directed by actuation of said input means 1, while ending actuation of a share system, when termination of share actuation is not directed by actuation of said input means 1 but it is changed by drag actuation, it can extend and the frame of the field are sharing is changed into a big field along the dragged direction. That is, as shown in drawing 4, the shared area 12 where the arbitration graphic form of the display screen 11 interior is displayed is changed through the share cursor 13. And modification of the magnitude of said shared area is transmitted to the control command transfer means 4 from the shared area assignment means 2 at this time, and shared area modification information is outputted to a client from the control command transfer means 4 as control data.

[0020] Next, it progresses to step S5 and judges whether the appointed field of a shared area exceeded the range which can be specified. And when bigger shared area assignment than the maximum field of the shared area the information about is beforehand exchanged at step S1 is made when the answer of step S5 is negation (No) namely, while returning to step S3 and repeating above-mentioned processing, when the answer is negation (No), it progresses to step S6, reduction of drawing data is performed, and it returns to step S3. That is, control command is outputted to the data reduction means 8 from the control command transfer means 4. And in said data reduction means 8, in a lengthwise direction and a longitudinal direction, subsampling of the drawing data in a shared area is carried out to one half, and they decrease in number. The thinned-out drawing data are outputted to the data transfer means 9 by this, and drawing data are outputted to a client.

[0021] Drawing 3 is a flow chart which shows the procedure in the case of specifying a share window, when the application which it is going to share between a client and a server is newly started.

[0022] At step S11, initialization of a share system is performed by the same technique as step S1 of drawing 2 , and the application which it is subsequently going to share with a client with the share application selection means 3 is specified (step S12). The specified application is read from the 1st are recording equipment 5 by this, and application is started. And initialization of application is performed at continuing step S13. That is, in the started application, the application concerned reads the configuration file saved uniquely from said 1st are recording equipment 5, and initializes application so that the operational parameter, the window display equipment, or the window area of application may become the same as that of the time of the last application termination. Subsequently, at step S14, it judges whether the application window has exceeded the range which can be share specified. And when the answer is negation (No), while progressing to step S16, when the answer is affirmation (Yes) (i.e., when it becomes a bigger window field than the maximum field of the shared area where information was exchanged by initialization of application at step S11), subsampling of the drawing data in a shared area is carried out to a lengthwise direction and a longitudinal direction, and drawing data are decreased (step S15). That is, although the whole window which the started application displays is once specified as a shared area with the shared area assignment means 2, when a bigger window area as mentioned above than the maximum field is displayed, this display information is transmitted to the control command transfer means 4 from the shared area assignment means 2, and is further transmitted to the data reduction means 8 from this control command transfer means 4. And with the data reduction means 8, reduction processing of drawing data is performed like step S6 of drawing 2 , and it is outputted to a client. Subsequently, while standing by until directions of discharge are when it judges whether

discharge of share assignment was directed at step S16 and discharge of share assignment is not directed, when share directions are canceled through actuation of the input means 1, actuation of the application were sharing is terminated and processing (step S17) is ended.

[0023] Thus, even if it is the ** case to which the application window has crossed the range which can be share specified, by thinning out drawing data, a share system can be mutually operated between server clients within limits which can be specified.

[0024] Drawing 5 is the block block diagram showing the gestalt of the 2nd operation, and the gestalt data reduction means of operation of **** 2 is omitted. That is, with the gestalt of operation of **** 2, instead of decreasing drawing data, when a shared area exceeds the range which can be specified, field expansion actuation was forbidden or the window area is changed into the range which can be specified.

[0025] Drawing 6 is a flow chart which shows assignment / expansion operating procedure of the shared area concerning the gestalt of the 2nd operation.

[0026] Namely, processing of step S1 - step S4 is performed like the gestalt of implementation of the above 1st. When a bigger shared area than the maximum field of the shared area where information was beforehand exchanged at step S1 by step S5 tends to be specified The enlarged display of the frame of the field currently shared is made not to be carried out, and it can be made not to perform assignment of the shared area exceeding the appointed range by forbidding field expansion actuation (step S6').

[0027] Drawing 7 is a flow chart which shows the share window assignment procedure concerning the gestalt of the 2nd operation.

[0028] That is, like the gestalt of implementation of the above 1st, processing of step S11 - step S13 is performed, at step S14, when it is a bigger window area than the

maximum field of the shared area the information about is beforehand exchanged at step S11, the maximum field to which the information about the window area of application was exchanged at step S11 is decreased (step S15'), and processing after step S16 is performed.

[0029] Thus, a share system can be mutually operated between server clients like the gestalt of implementation of the above 1st by forbidding the expansion actuation exceeding the maximum viewing area within limits which can be specified instead of reducing drawing data, when a display screen or an application window crosses the range which can be share specified.

[0030]

[Effect of the Invention] Since system information predetermined between two or more communication terminals is exchanged before initiation of share information acquisition actuation according to this invention as explained in full detail above, even if it is the case where the screen resolution between each communication terminal differs, it becomes impossible to prepare a limit in the area size which can be specified as a shared area, and a share system can be mutually operated between each communication terminal in the field which can be specified.

[0031] Moreover, even if it is the case where it is started by the same setup as the time of the application which it is going to share being started last time, and a window area becomes large, and it is not restored to a shared area Since a setup of the operational parameter of a share system is performed later, the window area of the shared application can be redisplayed on the field which can share a share system. Moreover, when a shared area is crossed, the amount of data of the drawing data transmitted to other communication terminals from the communication terminal of 1 decreases.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

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[Drawing 2] It is the flow chart which shows shared area assignment / expansion operating procedure of the information processing approach concerning this invention.

[Drawing 3] It is the flow chart which shows the assignment procedure of the share window of the information processing approach concerning this invention.

[Drawing 4] It is drawing of the display screen in which signs that a shared area is expanded are shown.

[Drawing 5] It is the block block diagram showing the gestalt of operation of the 2nd of information processing system.

[Drawing 6] It is the flow chart which shows the gestalt of implementation of the 2nd of shared area assignment / expansion operating procedure.

[Drawing 7] It is the flow chart which shows the gestalt of implementation of the 2nd of the assignment procedure of a share window.

[Description of Notations]

2 Shared Area Assignment Means (Share Information Acquisition Means)

4 Control Command Transfer Means (Information-Interchange Means)

8 Data Reduction Means (Subsampling Means)

9 Data Transfer Means (Transfer Means)